

be identified as a rejected press. A sequence where the press of the first key is deleted by the delete key, after which another key is pressed, can be identified as a corrected key press.

[0042] Naturally, the function of **1008** is not performed if one does not want to re-determine the tactile keyboard appearance. If, however, one wants to determine the appearance, the tactile keyboard appearance is re-determined in **1014** on the basis of the collected information and the analysis carried out so as to make the keyboard more ergonomic for the user, which makes the use of the keyboard easier and the pressing of a wrong key less likely. The tactile keyboard appearance comprises at least one of the following: key size, key shape and key location. Limits which the keyboard appearance may not exceed can be defined. The key shape may be changed in the main directions as described above, the key shape may be changed arbitrarily, the key centre point may be moved according to the mean of the coordinates of key presses, the key shape may be changed according to the variance of the coordinates of key presses, or the key shape is changed using vector quantization, expectation maximization or clustering. Other suitable adaptive and/or optimizing methods can also be applied to changing the key shape.

[0043] Switching off of the device can be tested in block **1016**. If the device is switched off, we move to **1018**, where the keyboard determined can be saved for the user in question, and thus the method ends. If the device is not switched off, we move from **1018** to **1004**. Naturally, **1016** may be located at other points of the method sequence. An embodiment of the method employs the determination of the visual keyboard appearance described above. A device **100** described above is suitable for performing the method but also other devices where the keyboard shape can be changed may be applicable.

[0044] Even though the invention was described with reference to an example according to the accompanying drawings, it is clear that the invention is not restricted thereto but it may be modified in various ways within the inventive concept disclosed in the enclosed claims.

1. An electronic device comprising

a touch pad,

a processing unit connected to the touch pad over a data transmission connection, the processing unit being configured to determine a virtual keyboard for the touch pad and a tactile appearance of the keyboard, receive information generated by the pressing of a keyboard key and identify the key that was pressed on the basis of the information, and

a feedback unit connected to the processing unit over a data transmission connection, the feedback unit being configured to provide tactile feedback on the keyboard use for the device user,

wherein the processing unit is further configured to collect information on the key presses and carry out an analysis of them, and re-determine the tactile appearance of the keyboard on the basis of the collected information and the analysis carried out so as to make the keyboard

more ergonomic for the user, which makes it easier to use the keyboard and/or the pressing of a wrong key less likely.

2. A device according to claim 1, wherein the information comprises at least one of the following: key press coordinates, keyboard control data and force of the key press.

3. A device according to claim 1, wherein the analysis is used to generate at least one of the following results: coordinates of an acceptable key press, coordinates of a rejected key press, coordinates of a corrected key press, time used for successive key presses, mean of the coordinates of presses of one key, variance of the presses of one key, another statistical variable describing the presses of one key.

4. A device according to claim 3, wherein the processing unit is configured to identify a press at the border of two keys or outside the keyboard as a rejected key press.

5. A device according to claim 3, wherein the processing unit is configured to identify the following sequence as a corrected key press: the first key press is deleted by the delete key, after which another key is pressed.

6. A device according to claim 1, wherein the tactile keyboard appearance comprises at least one of the following: key size, key shape and key location.

7. A device according to claim 1, wherein the processing unit is configured to define limits for the tactile keyboard appearance that the tactile keyboard appearance cannot exceed.

8. A device according to claim 6, wherein the processing unit is configured to change the key shape in the main directions.

9. A device according to claim 6, wherein the processing unit is configured to change the key shape arbitrarily.

10. A device according to claim 6, wherein the processing unit is configured to move the key centre point according to the mean of the coordinates of key presses.

11. A device according to claim 6, wherein the processing unit is configured to change the key shape according to the variance of the coordinates of key presses.

12. A device according to claim 6, wherein the processing unit is configured to change the key shape using vector quantization, expectation maximization, clustering or another suitable adaptive and/or optimizing method.

13. A device according to claim 1, wherein the processing unit is configured to determine the tactile keyboard appearance by giving a first tactile feedback on a key press.

14. A device according to claim 13, wherein the processing unit is configured to determine various first tactile feedbacks, a separate one either for each key or for each key group.

15. A device according to claim 1, wherein any one of the preceding claims, the processing unit is configured to determine the tactile keyboard appearance by giving a second tactile feedback on the key when it is not pressed.

16. A device according to claim 1, wherein the processing unit is configured to determine the tactile keyboard appearance by giving a third tactile feedback on an area which is outside the keys but belongs to the tactile keyboard appearance.

17. A device according to claim 1, wherein the processing unit is configured to determine the visual keyboard appearance and re-determine the visual keyboard appearance on the basis of the collected information and the analysis carried out so as to make the keyboard more ergonomic for